The Role of Organizational Psychology in Management, Through the Application of Mental Models

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Abstract: In regard to the application of psychology to management, especially in the organizational environment, the present paper reviews and focuses on the role of a psychology concept, the 'Mental Model.' In this paper, the importance of the mental model in organizational theory terms will be discussed, namely strategic thinking, organizational learning, and organizational culture. It is worth mentioning that the mental model is well-defined in the field of cognitive psychology, a field which will be elaborated on in the strategic thinking and organizational learning sections of this paper. Furthermore, the concept of humanistic psychology will be discussed as it relates to organizational culture. In general, this paper identifies the role of organizational psychology through two concepts, i.e. cognitive and humanistic psychology; these hold a special view of human nature and, therefore, are extremely beneficial in the world of management, especially in an organizational environment.

1. Introduction

In the world of business today, organizations will never be able to succeed in achieving organizational goals without relying on the findings of interdisciplinary sciences, such as management and psychology. Therefore, organizations need to utilize those psychology principles which are more practical and helpful in the world of management. In this context, organizational psychology is the branch of psychology which studies employees, workplaces, and organizations. Blum and Naylor (1968) define it as "the application or extension of psychological theories and principles to the problems concerning human beings operating within the context of business." Organizational psychologists conduct research on employee behavior and attitudes and explore how these can improve through psychological practices, training programs, and management systems. [1] Generally, organizational psychology deals with the analysis of different psychological aspects of management. Therefore, by applying psychology theories and principles to organizations, managers can achieve a high degree of efficiency in their operations and performance. This can be done through developing the managers' human skills and improving their interactions with subordinates.

The discussion section of this paper, elaborates on the application of organizational psychology by managers, specifically cognitive psychology and humanistic psychology. In short, humanistic psychology views human nature positively and recognizes the human ability to flourish. The focus of cognitive psychology is the realm of the human mind and the belief that it is a device for analyzing information, which underlies rational thinking. In addition, these psychology principles and their impact are discussed in three terms of organizational theory: strategic thinking, organizational learning, and organizational culture. These three utilize mental models in which there is a special focus on psychology principles.

2. Discussions

- Cognitive Psychology and Mental Models in Strategic Thinking

Strategic thinking is (Malan, 2010) a combination of 'strategy' and 'thinking.' Strategy refers to an integrated set of plans and actions with a medium to long-term impact and which are directed at achieving a competitive advantage (Grant, 2005; Hanson, Dowling, Hitt, Ireland, & Hoskisson, 2005; Hubbard, Rice, & Beamish, 2008). 'Thinking' is described from a psychology perspective as a cognitive activity which includes reasoning, decision-making and problem solving aimed at creating productive ideas or conclusions about something (Ericksson & Hastie, 1994). When 'strategy' is connected to 'thinking' within the context of

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[1] Organizational Psychology. (n.d.). In Wikipedia. Retrieved November 8, 2013, From:
http://en.wikipedia.org/wiki/Industrial_and_organizational_psychology

organizations—strategic thinking—it is defined as a clear mental picture of the future of the organization and the individual's role in the larger system (Liedtka, 1998). Strategic thinking focuses on problem solving and understanding the wider business context (Wilson, 1994).

According to Dr. David R. Stevens (1997), "Strategic thinking is harnessing the mind." This mental activity is a cognitive process which creates ideas and forms thoughts. In this context, one of the Henry Mintzberg's ten schools of strategy, the Cognitive School, looks inwards into the minds of strategists (Mintzberg, Lampel, & Ahlstrand, 2005) and focuses on the mental and interpretive processes of their minds. It is believed that the clarity of the strategists' minds is the foundation of strategic thinking, progress, and organizational development (Cheng & Ang, 2012). The Cognitive School derives its principles from the field of cognitive psychology and argues that strategic thought originates within the minds of managers. In this respect, strategy is a cognitive process which involves the functioning of the mind. It emerges as a perspective that defines how people react to the stimulus of the external environment. These stimuli are decoded through mental models (Pellegrino & Carbo, 2001).

As a result, an individual's strategic thinking (Malan, 2005) is formed by his/her unique mental model and is critical for describing, explaining, and predicting events in the environment (Mathieu, Goodwin, Heffner, Salas, & Cannon-Bowers, 2000). Therefore, the effectiveness of strategic thinking (Malan, 2010) depends on mental models of individuals and the shared mental models among strategic thinkers (Bonn, 2001).

What should be noted here is the importance of the mental model concept and its role in the performance of a strategist. Mental models (a.k.a. cognitive maps or internal representations) are defined (Senge, Roberts, Ross, & Kleine, 1994) as the images, assumptions, and stories that one carries in the mind. These are deeply ingrained assumptions or generalizations and often take the form of pictures or images in an individual's mind. Most people are not aware of their mental models, which are hidden or unconscious (Stacey, 2007). According to psychologist and cognitive scientist Steven Pinker (1999), experiences of the world are represented in our minds as mental models. These mental models can then be associated, compared with others, and then used to synthesize completely new images. According to this view, mental models allow one to form useful theories about how the world works. This is done by formulating likely sequences of mental images in one's mind without having to directly experience that outcome (Pinker, 1999).[2]

Two persons will react to and describe the same events differently because they consider different details (Senge, 2001) and have different mental models. Therefore, the purpose of mental models (Mathieu, Goodwin, Heffner, Salas, & Cannon-Bowers, 2000) is to allow one to predict and explain events, note the relationships among the components, and predict what may occur next (Malan, 2005).

Research has shown that mental models influence how managers employ strategic planning and the decision making process (Lane & Sirmon, 2003). In fact, mental models influence how individuals and teams respond to the strategic planning process. (Malan, 2005). Lane and Sirmon (2003) suggested that mental models focus on both the macro level (addressing strategic planning) and the micro level (addressing operational issues). Two other levels of mental models have been identified which influence the strategists' perceptions on competitive strategy (Porac, Thomas, & Baden-Fuller, 1989). As well as a cognitive level, there is a 'material' or technical level of decision-making in which the competitive environment influences the decision-makers' perceptions (Porac, Thomas, & Baden-Fuller, 1989). Hodgkinson and Johnson (1994) noted that managers with more complex mental models hold positions that require greater insight into business environments. These authors suggested that cognitive models vary because jobholders draw on different frames of reference when interpreting their surroundings; these frames of references are based on job experiences and the responsibilities, interests and goals of managers (Malan, 2005).

As mentioned earlier, the concept of the mental model is defined in cognitive psychology. According to Stacy (2007), cognitivism focuses on the individual's mind and claims that it is an information-processing device that is the basis of rational thinking. By focusing on rational choices, the theory of strategic choice makes assumptions about human nature. What should be noted here is the importance of internal representations of the external environment and the error-activated nature of the learning process specified by cybernetics. These are the central assumptions of a cognitive approach to psychology which have enormous implications on how human agencies, groups, and organizations are understood. According to strategic choice theory, human beings are regarded as living cybernetic

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[2] Mental Image. (n.d.). In Wikipedia. Retrieved May 7, 2013, From http://en.wikipedia.org/wiki/Mental_image

systems that can understand, design, control, and change other cybernetic systems, including their own minds.

This is why **the strategic choice theory is built on a particular view of human nature**, in which individuals are assumed to be essentially cybernetic entities. Representations of a pre-given reality take the form of regularities built up from previous experiences and mentally stored in the form of sets of rules, or schemas, cognitive maps or mental models. Through experience, humans create increasingly accurate representations and reliable cognitive maps (Stacey, 2007).

From the above discussion, it is clear that mental models are the keys to strategic thinking. They are based on one's knowledge (Malan, 2010), previous experiences, and beliefs about the long-term direction of an organization (Jacobs & Heracleous, 2005; Mathieu, Goodwin, Heffner, Salas, & Cannon-Bowers, 2000). In the true life experience of development and learning, human minds build up models, maps or schemas representing reality and then act on the basis of these models. Therefore, by the development of the learning process, one's mental model is enriched and finally improved.

Learning is a way of developing increasingly accurate representations of external, pre-given reality by utilizing the feedback processes (Stacey, 2007). The next section elaborates on this point. Before that, it is worth mentioning that learning organizational theories by applying cognitive psychology, employ the same theory about human nature and the same mental models as strategic thinking does.

- Cognitive Psychology and Mental Models in Organizational Learning

Peter Senge believed that an organization excels when it is able to tap in on the commitment and capacity of its members to learn. He sees this capacity as intrinsic to human nature. Senge identifies five necessary disciplines required for an organization that can truly learn (Stacey, 2007). This paper focuses on one of these, the 'mental model' feature, which is associated more with its main subject.

One of the prerequisites for a learning organization is an understanding of the notion of mental models. Senge emphasizes how mental models restrict perceptions and points to Royal Dutch Shell, claiming that it developed the skill of challenging its managers' mental models. As mentioned earlier, mental models are internal pictures of the external world. Senge claims that individuals can learn to draw out mental models and subject them to rigorous scrutiny (Stacey, 2007). Therefore, understanding organizational learning is mainly

possible through mental models and these should be subjected to improvement.

According to Stacy (2007), organizational learning is a process in which management teams work together to change their shared mental models. **This is cognitive psychology as proposed in strategic choice theory**. Based on the cognitive science, humans are compelled by their limited brain capacity to simplify everything they observe while processing new information (Stacey, 2007).

A very influential theory of learning about changes in mental models derives from the work of Bateson (1972) and later Argyris and Schön (1978). There are two ways that one can learn from experiences: single-loop and double-loop learning which are deeply rooted in the mental model. A person would function very slowly, if for every action, large numbers of previously acquired mental models would be consciously retrieved and examined before an appropriate one is chosen. Therefore, actions are based on previously acquired well-established models of which an individual has since become unaware. One process of learning, involves the repetition of an action so much so that later similar actions become an automatic process. In a new situation, some form of a recognizable pattern automatically triggers the use of past models developed from previous analogous situations. In this way, individuals do not examine the whole body of their expertise when confronting a new situation. Instead, they detect recognizable similarities in the qualitative patterns of what they observe and automatically produce models which they modify to meet the new circumstances. This is single-loop learning. Each time people act, they learn from the consequences of that action to improve the next action. This is done without having consciously retrieved and examined the unconscious models used to design the action. However, behavior based on single-loop learning and unconscious mental models maybe beneficial, but also poses significant dangers. The fact that mental models may design actions and are used unconsciously indicates that mental models are not being questioned. The more expert one is at single-loop learning, the more rapidly one acts on the basis of unconscious models. This means that one easily takes for granted the assumptions and simplifications upon which mental models are inevitably built. This is an efficient process in stable circumstances, but when those circumstances change rapidly, it becomes dangerous. The possibility of skilled incompetence (Argyris, 1990) then arises. The more expert one is in designing certain actions, the greater the risk of not questioning their actions. It follows that they are more likely to become skilled

incompetents, which gives rise to the need for double-loop learning (Stacey, 2007).

Double-loop learning begins when people question their own unique mental models and, when together as a group, start challenging the mental models shared with each other. Double-loop learning, then, involves changing a mental model, a recipe, a mindset, a frame of reference or a paradigm. It is a very difficult process to perform simply because one is trying to examine assumptions that one is not normally aware of. People will, therefore, keep slipping into single-loop learning because that is easier. However, it is important to encourage double-loop learning since it fosters innovation. That is why innovative managers need to constantly shift, break, and create paradigms; they must engage in double-loop learning (Stacey, 2007).

In creating a learning environment, it is important to replace confrontational attitudes with an open culture (McHugh, Groves, & Alker, 1998) that promotes inquiry and trust (O'Keeffe, 2002).[3] In this respect, organizational culture utilizes theories, as strategic thinking and learning organizations, in which there is a special focus on human nature. Such theories apply humanistic psychology and hold a basically optimistic view of human nature (Stacey, 2007). It is worth noting that the core belief of humanistic psychology is that people are inherently good. The next section will be elaborated on this point.

- Humanistic Psychology and Mental Models in an Organizational Culture

According to Edgar Schein, culture is to an organization what personality or character is to an individual. Yet, just as one's personality and character guide and constrain behavior, so does culture guide and constrain the behavior of the members of an organization through the shared norms that are held by that organization (Schein, 2004). In fact, organizational culture is the infrastructure of organizational behavior which forms and determines the staff's type of behavior.

Based on all that has been discussed about the role of individuals' mental models, it is worth mentioning that, in an organizational context, mental models are manifested in culture and unwritten rules of behavior. They serve as a filter to process information and make decisions quickly (Malan, 2005).

Edgar Schein employs specific behavioral patterns in his organizational culture model and identifies three cognitive levels: Artifacts, Espoused Beliefs/Values, and Shared Assumptions. The

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[3] Learning Organization. (n.d.). In Wikipedia. Retrieved June 25, 2013, From http://en.wikipedia.org/wiki/Learning_organization

definition of the third level, Shared Assumptions, is the embedded, taken-for-granted beliefs, perceptions, and thoughts of an organization's staff. This level, in fact, deals with mental models, because mental models represent (Malan, 2010) a set of assumptions and generalizations that influence how the external environment is interpreted and what actions are to be taken (Fitzroy & Hulbert, 2005).

The members of organizations with strong cultures begin to share common mental models about employee, competition, customers, unions, and other important aspects of managerial decision-making (Dalkir, 2013).

Consequently, this paper focuses on the third layer of Schein's model of organizational culture, i.e. Shared Assumptions, which is more closely associated with its subject matter. There are deeper dimensions around which Shared Assumptions form. These deeper dimensions clearly influence how external adaptation and internal integration issues are handled (Schein, 2004). The dimension of the 'Nature of Human Nature' will be elaborated here.

The Nature of Human Nature is the shared assumptions that define what it means to be human and what human attributes are considered intrinsic or ultimate. Is human nature good, evil, or neutral? Are human beings perfectible or not? In fact, in every culture, there are shared assumptions about what it means to be human, what basic instincts are, and what kinds of behavior are considered inhuman and therefore grounds for rejection by the group. Kluckhohn and Strodtbeck (1961), in their classic comparative study, noted that, in some societies, humans are seen as basically evil, in others as basically good, and still in others as mixed or neutral, capable of being either good or bad (Schein, 2004). Kluckhohn stated that societies make such distinctions. She added that such predispositions could be mutable or immutable. For example, human nature could be seen as "evil and unalterable" or "evil and perfectible." (Zaharna, 2000).

In an organizational context, managers need to be aware of their mental models regarding views on human nature and whether it is mutable or immutable. They also need to grasp the culture's view of human nature and its mutability in order to set realistic expectations and steps in their management style so as to accommodate such cultural beliefs (Zaharna, 2000). In fact, at the organizational level, the basic assumptions about human nature are often expressed most clearly by how employees and managers are viewed (Schein, 2004). The initial assumptions that members of a new group adopt well may reflect the personal biases of the manager of an organization because they tend to select associates

who share assumptions similar to their own (Schein, 1983).

In this respect, one of the most important characteristics of managers who develop organizational learning cultures is their positive assumptions about human nature. These assumptions are features of positive thinking, a quality which will be defined by the manager's type of mental model and falls in the field of humanistic psychology.

A manager's mental model and attitude toward human nature has a great impact on his/her management style. As an example, according to organizational theories, holding positive assumptions and beliefs towards employees is what the McGregor Theory Y is about. An environment of trust is what is required for human resource development, something that is expected from Theory Y managers as opposed to Theory X managers. This positive attitude will allow for open communication with employees, reduce conflicts in employer-employee relationships, and build a positive environment in which employees can develop their abilities. Consequently, in a learning culture, managers must have faith in people and believe that ultimately human nature is basically good and, in any case, malleable. In other words, the manager must believe that humans can and will learn if they are provided with the resources and the necessary psychological safety (Schein, 2004).

As for this connection, Robert Tannenbaum and Sheldon A. Davis asserted that an important shift in values is occurring and that this shift signals a more appropriate and accurate view of human nature in organizations. These values reveal the importance of applying the principles of organizational psychology. These are listed below as the "values in transition." Therefore, the manager's mental model focus should be:

- Away from viewing people as essentially bad toward viewing people as basically good.
- Away from negatively evaluating individuals toward confirming them as human beings.
- Away from distrusting people toward trusting them.
- Away from resisting and fearing individual differences toward accepting and utilizing them.
- Away from utilizing an individual primarily with reference to his/her job description toward viewing an individual as a whole person (French & Bell, 1998).

3. Conclusion

The complexities of the present era and the acceleration of technological advances illustrate the importance of psychological findings in the world of business today. This is the reason why the world of management has undergone many changes over the course of recent decades. It goes without saying that, in today's competitive world, organizations need to take advantage of interdisciplinary sciences such as management and psychology. Organizations consist of people and, therefore, in order to establish sustainable relationships, a successful manager should raise his/her awareness about human nature.

Applying organizational psychology can help managers to develop their human skills in an organizational environment. In this context, by properly applying cognitive and humanistic psychology, a manager can control his/her mental model and that of the others' and work towards adopting a positive approach towards human nature. This is a practical ability which finally leads to improving strategic thinking, building a successful learning organization and developing the organizational culture.

In the end, it should be noted that, in order to control mental models, one should master the ability of Mind Management—a point which was discussed by the author in another paper entitled "A Novel Approach to Mind Management (Controlling One's Mental Territory/ Mental Model)."

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